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COSTS and RETURNS



**Commercial
Cotton
Farms**

1963

FARM COSTS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches by type and size in some of the important farming regions of the United States. The study is conducted under the general supervision of Wylie D. Goodsell, Farm Production Economics Division, Economic Research Service. Objectives, methodology, procedure, and terms are uniform for all areas covered in the study.

The 1963 costs and returns studies have been conducted on the following:

Dairy Farms, Northeast and Midwest
 Corn Belt Farms
 Egg-Producing Farms, New Jersey
 Broiler Farms, Maine, Delmarva, and Georgia
 Cotton Farms
 Tobacco Farms, Coastal Plain, North Carolina
 Tobacco-Livestock Farms, Bluegrass Area, Kentucky
 Wheat Farms, Plains and Pacific Northwest
 Western Livestock Ranches

Summary statistics for all types of farms in the study are presented in a report, revised annually. The latest such report was published in 1963 and is titled: "Farm Costs and Returns, Commercial Farms, by Type, Size, and Location," Agriculture Information Bulletin No. 230, Revised, 1963.

Information on the studies can be obtained from Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C., 20250.

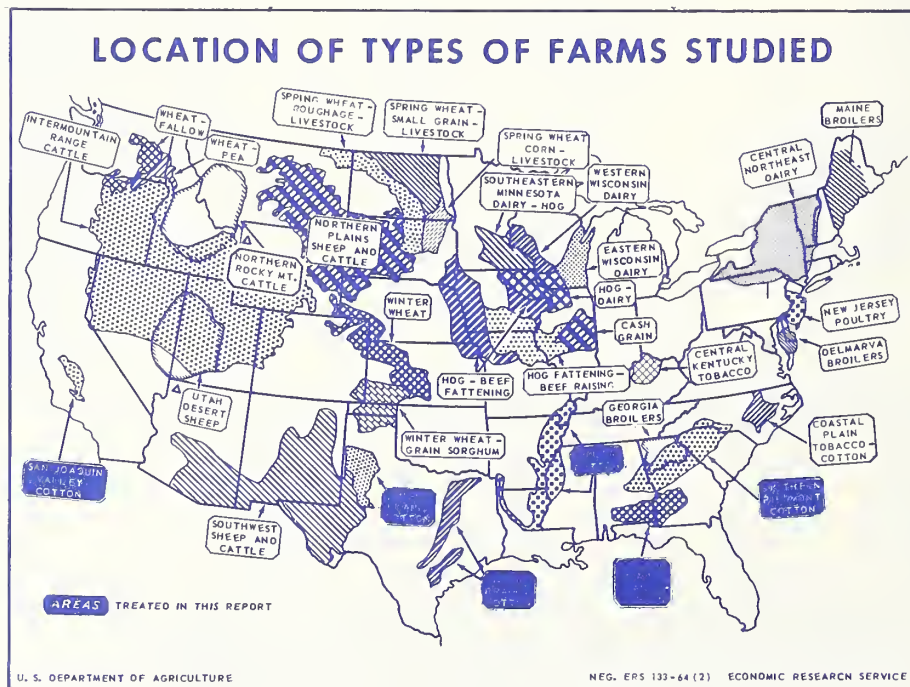


Figure 1

COSTS AND RETURNS

COMMERCIAL COTTON FARMS, 1963

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INTRODUCTION

In 1963, net farm incomes on 8 of 10 cotton-type farms in 6 important producing regions were higher than in 1962 (fig. 1). Net farm incomes on cotton farms in the Southern Piedmont, Mississippi Delta, and Black Prairie of Texas and on peanut-cotton farms in the Southern Coastal Plains were the highest on record. Net farm incomes in 1962 and in 1963 on these types of cotton farms were as follows:

	<u>1962</u>	<u>1963</u>	<u>Percentage change</u>
Cotton farms:			
Southern Piedmont	\$ 2,531	\$ 3,037	20
Mississippi Delta:			
Small	2,084	2,666	28
Large-scale	31,533	42,694	35
Texas:			
Black Prairie	3,842	5,246	37
High Plains (nonirrigated)	7,749	10,131	31
High Plains (irrigated)	17,036	17,037	0
San Joaquin Valley, California, irrigated:			
Cotton-general crop (medium-sized)	27,961	32,906	18
Cotton-general crop (large)	85,906	96,397	12
Cotton-specialty crop	30,271	30,198	0
Peanut-cotton farms,			
Southern Coastal Plains	3,907	5,670	45

Most of the farms with higher net farm incomes in 1963 than in 1962 had higher yields per acre, higher ratios of prices received to prices paid, and increased size of farm. On farms with slight changes in net farm incomes, factors tending to increase incomes were offset by fewer acres of cotton and either lower prices received or lower yields per acre.

The overall indexes of crop yields per acre were record highs in all areas except the irrigated farms in the High Plains of Texas where they were slightly lower than in 1962, and the large cotton-general crop farms in the San Joaquin Valley of California, where the crop index equaled the previous record in 1962. Cotton yields per acre were record highs in all areas except the Southern Piedmont and High Plains of Texas. Some of the increase in yield per acre from 1962 to 1963 may have been due to differences in weather but the long-time upward trend has indicated higher yields.

Increased mechanization and use of improved crop practices--such as chemical weed control and commercial fertilizer--continued in 1963. Additional use of skip-row planting, particularly in the Mississippi Delta and the San Joaquin Valley, also contributed to higher yields per acre.

Cotton acreage allotments were reduced between 1962 and 1963. Consequently cotton acreage harvested per farm, on all types of farms, either declined or increased less than total land farmed. Crops increased to replace cotton included soybeans in the Mississippi Delta, grain sorghum in the Black Prairie and High Plains of Texas, and alfalfa in the San Joaquin Valley. Potato acreage was also increased on cotton-specialty crop farms in the San Joaquin Valley. However, the increase in total cropland harvested generally was less than the increase in total land farmed. Except on irrigated cotton farms in the High Plains and cotton-general crop farms in the San Joaquin Valley, net farm production in 1963 was higher than in 1962. Increased net farm production was generally due to higher yields per acre and increased farm size. The upward trend in production per hour of labor and production per unit of input continued in 1963. However, increases in these indexes on most types of farms probably were greater than the increases in long-time upward trends.

Prices received on cotton farms in the Delta, Black Prairie, and

High Plains of Texas and cotton-general crop farms in the San Joaquin Valley averaged from 3 to 9 percent higher in 1963 than in 1962. Support prices for cotton and cottonseed were the same in both years. But prices received for cotton varied from 1.0 cent per pound lower on peanut-cotton farms to 1.3 cents per pound higher on cotton farms in the San Joaquin Valley. Prices received for cottonseed varied from \$2.92 per ton lower in the San Joaquin Valley to \$5.57 per ton higher in the High Plains of Texas. Some of these price differences resulted from changes in quality between the 2 years. Prices received for soybeans in the Delta, peanuts in the Southern Coastal Plains, alfalfa in the San Joaquin Valley, and feed grains in most areas were higher than in 1962. But prices received for potatoes in the San Joaquin Valley and hogs and cattle in other areas were lower than a year earlier.

Prices paid for items used in production averaged the same or slightly higher than in 1962. Taxes and prices paid for machinery were higher than in 1962, but prices paid for nitrogen fertilizer and building materials generally were lower.

The upward trend in total farm investment continued from 1962 to 1963. The increase ranged from 1 to 10 percent. Most of the increase in investment was due to higher land values per acre and an increase in total land farmed. The investment in working capital was also generally higher than a year earlier.

SPECIALIZED COTTON AREAS

Cotton Farms, Southern Piedmont

In 1963, net farm incomes on cotton farms in the Southern Piedmont averaged \$3,037 and were the high-

est on record (table 1). They were 20 percent higher than in 1962 and 6 percent above the previous record in 1958. The increase in net farm income was mostly due to higher

Table 1.- Organization, production, costs and returns
cotton and peanut-cotton farms, Southeast, 1962 and 1963

Item	Unit	Cotton farms, Southern Piedmont		Peanut-cotton farms, Southern Coastal Plains <u>2/</u>	
		1962	1963 <u>1/</u>	1962	1963 <u>1/</u>
Cash receipts.....	Dollar	5,460	6,299	7,676	9,881
Cash expenditures.....	do.	3,613	4,061	4,396	4,808
Net cash income.....	do.	1,847	2,238	3,280	5,073
Net value of perquisites.....	do.	695	699	521	495
Net change in inventory.....	do.	-11	100	106	102
Net farm income.....	do.	2,531	3,037	3,907	5,670
Total farm capital, Jan. 1.....	do.	28,660	30,750	21,030	23,100
Total labor used.....	Hour	4,710	5,110	3,630	3,970
Land in farm.....	Acre	227	233	180	185
Cropland harvested.....	do.	63	65	73	74
Crops harvested:					
Cotton.....	do.	26	27	17	16
Peanuts.....	do.	---	---	23	23
Corn.....	do.	12	13	<u>3/</u> 32	<u>3/</u> 33
Oats.....	do.	9	8	---	---
Wheat.....	do.	5	7	---	---
Crop yields per harvested acre:					
Cotton.....	Pound	353	407	400	516
Peanuts.....	do.	---	---	1,132	1,463
Corn.....	Bushel	30	36	32	43
Oats.....	do.	42	37	---	---
Wheat.....	do.	25	28	---	---
Prices received:					
Cotton, per pound.....	Dollar	.339	.337	.334	.324
Cottonseed, per ton.....	do.	47.65	48.54	44.65	44.27
Peanuts, per pound.....	do.	---	---	.105	.109
Corn, per bushel.....	do.	1.30	1.28	1.26	1.26
Oats, per bushel.....	do.	.78	.82	---	---
Wheat, per bushel.....	do.	1.92	1.85	---	---
Index numbers (1957-59=100):					
Crop yields per acre.....	---	105	120	109	142
Net farm production.....	---	<u>111</u>	129	138	178
Production per hour of man labor.....	---	110	118	131	154
Production per unit of input.....	---	105	113	104	126
Prices received for products sold.....	---	103	102	102	102
Prices paid, including wages to hired labor..	---	<u>4/</u> 103	<u>4/</u> 106	95	97

1/ Preliminary. 2/ Revised. 3/ Includes corn hogged off. 4/ Includes cropper labor.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

average yields per acre. Although the cotton yield was not as high as in 1958, the average yield of other crops more than offset the lower cotton yields and total farm yield was the highest on record.

Increased size of farm also contributed to higher net farm incomes. The increase in size of farm more than offset reduced cotton acreage allotments.

Higher yields per acre and increased size of farm in 1963 resulted in a 16-percent increase in net farm production from 1962 and a 9-percent rise from 1961, the previous record high. Production per hour of labor also was a record and production per unit of input was the highest since 1958.

Prices received averaged slightly lower in 1963 than in 1962 whereas prices paid for items used in production averaged 3 percent higher.

Small- and Large-Scale Cotton Farms, Mississippi Delta

Net farm incomes on small and large-scale cotton farms in 1963 were the highest on record (table 2). The increases were due to higher yields per acre, higher prices received, and improved technology.

In 1963, cotton yields averaged 614 pounds per acre on the small farms and 686 pounds per acre on large-scale Delta cotton farms. These yields were 13 percent higher than the previous record set in 1959 and 24 percent higher than in 1962. Corn yields were higher than a year earlier but soybeans and oats yields were lower.

Increased use of mechanical cotton pickers and improved practices--such as chemical weed control--continued in 1963. Improved crop practices and higher yields

per acre of cotton and corn resulted in record net farm production, production per hour of labor, and production per unit of input. Total operating expenses and total cost per unit of production were the lowest on the small cotton farms since 1955. Increase in efficiency was greater on the large-scale cotton farms than on the small farms; therefore, total operating expenses per unit of output on the large-scale units were record low and total cost per unit of production was the lowest since 1944.

Prices received for products sold averaged about 3 percent higher in 1963 than in 1962. Prices received for soybeans, cotton, cottonseed, corn, and oats were higher than in 1962 but prices received for cattle and hogs were lower.

Prices paid for items used in production on large-scale cotton farms averaged slightly higher than a year earlier. Increased prices paid for feed, seed, and farm machinery, combined with higher taxes and wage rates, were partly offset by lower prices paid for some kinds of fertilizer, defoliant, insecticides, and materials used in chemical weed control.

Cotton Farms, Black Prairie, Texas

In 1963, net farm incomes on cotton farms in the Black Prairie of Texas averaged \$5,246 per farm, 37 percent above 1962 and the highest on record. The increase in net farm income was due to higher yields per acre of cotton, increased size of farm, and higher prices received.

Cotton yields averaged 240 pounds per acre, 26 percent above 1962 and slightly above the previous record set in 1953. Despite lower yields

Table 2.- Organization, production, costs and returns,
cotton farms, Mississippi Delta, 1962 and 1963

Item	Unit	Small		Large-scale	
		1962	1963 ^{1/}	1962	1963 ^{1/}
Cash receipts.....	Dollar	4,280	4,961	72,968	83,742
Cash expenditures.....	do.	2,755	2,863	43,483	42,880
Net cash income.....	do.	1,525	2,098	29,485	40,862
Net value of perquisites.....	do.	516	474	1,229	1,229
Net change in inventory.....	do.	43	94	819	603
Net farm income.....	do.	2,084	2,666	31,533	42,694
Total farm capital, Jan. 1.....	do.	14,470	15,470	233,390	249,070
Total labor used.....	Hour	3,150	3,010	27,020	23,910
Land in farm.....	Acre	59	60	1,000	1,000
Cropland harvested.....	do.	38	38	604	605
Crops harvested:					
Cotton.....	do.	18	16	266	241
Soybeans.....	do.	15	17	270	304
Corn.....	do.	3	3	19	20
Oats.....	do.	1	1	28	20
Crop yields per harvested acre:					
Cotton.....	Pound	494	614	553	686
Soybeans.....	Bushel	21	19	23	21
Corn.....	do.	27	32	37	47
Oats.....	do.	45	40	49	42
Prices received:					
Cotton, per pound.....	Dollar	.328	.332	.328	.332
Cottonseed, per ton.....	do.	47.32	51.45	48.16	52.28
Soybeans, per bushel.....	do.	2.26	2.55	2.29	2.59
Corn, per bushel.....	do.	1.20	1.26	1.22	1.26
Oats, per bushel.....	do.	.71	.80	.69	.79
Index numbers (1957-59=100):					
Crop yields per acre.....	---	109	132	108	130
Net farm production.....	---	118	132	116	128
Production per hour of man labor.....	---	122	142	152	190
Production per unit of input.....	---	108	118	119	134
Prices received for products sold.....	---	103	106	105	109
Prices paid, including wages to hired labor..	---	103	103	^{2/} 107	^{2/} 108

^{1/} Preliminary. ^{2/} Includes cropper labor.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

per acre of feed grains and hay, the index of crop yields per acre was the highest on record. Although cotton acreage allotments were reduced in 1963, the acreage of cotton harvested per farm was about the same as in 1962. The average size of farm increased and abandonment was less than in 1962. Grain sorghum acreage also increased.

Mechanization continued to increase in 1963 but most of the increase in production per unit of input was due to higher yields per acre. Some of the increase may have been due to unusually favorable weather for cotton production, but there has been an upward trend in production per unit of input.

Prices received for products sold averaged about 3 percent higher in 1963 than in 1962. Cottonseed and feed grains were the main items bringing higher prices in 1963. The small increase in prices paid for items used in production is in line with the upward trend of this index. Taxes, wage rates, and prices paid for feed, seed, and farm machinery were higher than in 1962. But prices paid for nitrogen fertilizer and rates for hand-harvesting cotton were lower than in the previous year.

Nonirrigated and Irrigated Cotton Farms, High Plains, Texas

In 1963, net farm incomes on nonirrigated cotton farms in the High Plains of Texas were 31 percent above 1962 (table 3). But net farm incomes on irrigated cotton farms were practically unchanged. This difference was due to changes in cotton yields. The yield of non-irrigated cotton was 23 percent above 1962 but the yield of irrigated cotton declined 7 percent. Yields of grain sorghum on both types of farms were about 17 percent above 1962.

Net farm production on the non-irrigated cotton farms increased about 18 percent. This increase was largely due to higher yields per acre. On the irrigated cotton farms, net farm production declined about 3 percent. The shift from cotton to grain sorghum and lower yields of irrigated cotton more than offset the increase in cropland harvested and higher yields of nonirrigated cotton and grain sorghum.

On nonirrigated cotton farms, cash receipts in 1963 were 20 percent above 1962 and cash expenses were up 11 percent. Items associated with the larger volume of production--such as ginning and hired labor--accounted for most of the increase in cash expenses.

On irrigated cotton farms cash receipts and cash expenditures were both down slightly from 1962. Lower cash receipts from cotton lint and cottonseed were offset by the increased receipts from grain sorghum and other crops. However, receipts from sales of livestock and livestock products declined and Government payments were lower because of reduced participation in the feed grain program. The chief reduction in expenses resulted from the use of less irrigation water in 1963.

Price-cost relationships in 1963 were more favorable than in 1962. Cotton lint prices were up slightly from 1962; cottonseed prices were up 12 percent; and grain sorghum prices were 10 percent above 1962 prices.

Medium-Sized and Large Cotton-General Crop Farms, San Joaquin Valley, California

Net farm incomes on medium-sized and large cotton-general crop farms increased 18 percent and 12

Table 3.- Organization, production, costs and returns, cotton farms, Texas, 1962 and 1963

Item	Unit	High Plains <u>1/</u>				Black Prairie	
		Nonirrigated		Irrigated		1962	1963 <u>2/</u>
		1962	1963 <u>2/</u>	1962	1963 <u>2/</u>		
Cash receipts.....	Dollar	15,737	18,894	33,171	32,738	8,481	10,274
Cash expenditures.....	do.	8,726	9,683	17,180	15,891	5,357	5,510
Net cash income.....	do.	7,011	9,211	15,991	15,847	3,124	4,764
Net value of perquisites.....	do.	639	639	840	820	587	581
Net change in inventory.....	do.	99	281	205	370	131	-99
Net farm income.....	do.	7,749	10,131	17,036	17,037	3,842	5,246
Total farm capital, Jan. 1.....	do.	78,960	84,950	130,840	139,450	52,380	57,330
Total labor used.....	Hour	4,000	4,150	5,760	5,720	3,200	2,790
Land in farm.....	Acre	505	527	422	438	274	286
Cropland harvested.....	do.	323	324	302	305	152	159
Crops harvested:							
Cotton: Nonirrigated.....	do.	178	172	38	35	81	80
Irrigated.....	do.	---	---	126	123	---	---
Grain sorghum: Nonirrigated....	do.	140	145	86	89	22	27
Irrigated.....	do.	---	---	48	55	---	---
Corn.....	do.	---	---	---	---	21	22
Oats.....	do.	---	---	---	---	16	16
Crop yields per harvested acre:							
Cotton: Nonirrigated.....	Pound	206	253	206	253	190	240
Irrigated.....	do.	---	---	591	548	---	---
Grain sorghum: Nonirrigated....	Cwt.	11	13	11	13	21	20
Irrigated.....	do.	---	---	33	38	---	---
Corn.....	Bushel	---	---	---	---	31	29
Oats.....	do.	---	---	---	---	25	24
Prices received:							
Cotton, per pound.....	Dollar	.303	.304	.303	.304	.308	.307
Cottonseed, per ton.....	do.	47.18	52.75	47.18	52.75	47.79	51.58
Grain sorghum, per cwt.....	do.	1.58	1.74	1.58	1.74	---	---
Corn, per bushel.....	do.	---	---	---	---	1.17	1.30
Cattle, per cwt.....	do.	21.45	20.15	21.45	20.15	21.45	20.15
Index numbers (1957-59=100):							
Crop yields per acre.....	---	88	106	110	109	102	115
Net farm production.....	---	107	126	122	118	124	144
Production per hour of man labor.....	---	119	134	128	125	126	168
Production per unit of input....	---	96	107	108	106	105	118
Prices received for products sold.....	---	102	105	102	105	105	108
Prices paid, including wages to hired labor.....	---	106	108	106	108	105	106

1/ Revised. 2/ Preliminary.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

percent, respectively, from 1962 to 1963 (table 4). Higher net farm incomes were due mostly to higher prices received for alfalfa, cotton, and feed grains. Cottonseed was the only product sold with lower prices than in the preceding year. The index of prices received increased about 9 percent.

The index of prices paid for items used in production changed very little between 1962 and 1963. Lower prices paid for fertilizer nearly offset higher prices paid for power fuel and machinery, and higher taxes and wage rates.

Yields per acre of cotton, alfalfa, and corn were slightly higher than in 1962 but the yields per acre of barley were lower. Smaller acreages of cotton and barley and lower yields of barley reduced net farm production from 1962 to 1963. Because barley is relatively more important on the large- than on the medium-sized farms, net farm production declined more on the large farms.

Cropland harvested declined slightly despite an increase in farm size in 1963. Reduced acreages of cotton and barley, more than offset increased acreages of corn and alfalfa.

Cotton-Specialty Crop Farms, San Joaquin Valley, California

Net farm incomes on cotton-specialty crop farms averaged slightly lower in 1963 than in 1962. Gross receipts and net farm production increased 5 and 6 percent, respectively. The index of crop yields per acre was 4 percent higher than in 1962 and 1 percent above the previous record in 1961. Except for barley, yields per acre for all crops were higher than in the previous year.

The index of prices received for products sold declined slightly and the index of prices paid for items used in production was unchanged from 1962 to 1963. Higher prices received for alfalfa, lint cotton, and feed grains did not quite offset lower prices received for potatoes and cottonseed. Also, lower prices paid for fertilizer offset higher prices paid for power fuel and machinery, higher tax rates and higher wage rates paid for hired labor.

Peanut-Cotton Farms, Southern Coastal Plains

In 1963, net farm incomes on peanut-cotton farms averaged \$5,670, the highest on record (table 1). They were 45 percent above 1962 and 38 percent above the previous record high in 1961. Gross farm incomes rose 25 percent and exceeded \$10,000 for the first time in history. Total operating expenses in 1963 were 7 percent higher than in 1962.

Net farm production in 1963 was record high and about 29 percent higher than in 1962 because crop yields were a record high. Acreage harvested of major crops remained about the same as in 1962.

The index of prices received for commodities sold was the same for both 1962 and 1963. Corn prices were unchanged and the slight decrease in price of cotton lint did not quite offset the slight increase in price received for peanuts. Increased volume of both cattle and hogs sold more than offset lower cattle and hog prices in 1963.

Total cash expenditures in 1963 were \$412 above 1962. More than one-half of the increase resulted from higher costs of harvesting and

Table 4.- Organization, production, costs and returns, cotton farms,
San Joaquin Valley, California (irrigated), 1962 and 1963

Item	Unit	Cotton-general crop				Cotton-specialty crop	
		Medium-sized		Large			
		1962	1963 <u>1/</u>	1962	1963 <u>1/</u>	1962	1963 <u>1/</u>
Cash receipts.....	Dollar	74,129	79,243	235,827	245,925	107,141	112,309
Cash expenditures.....	do.	47,564	47,687	152,905	152,567	78,373	83,467
Net cash income.....	do.	26,565	31,556	82,922	93,358	28,768	28,842
Net value of perquisites.....	do.	692	689	1,028	1,023	685	678
Net change in inventory.....	do.	704	661	1,956	2,016	818	678
Net farm income.....	do.	27,961	32,906	85,906	96,397	30,271	30,198
Total farm capital, Jan. 1.....	do.	298,290	302,180	1,028,060	1,045,310	301,060	305,450
Total labor used.....	Hour	9,860	9,650	29,740	29,160	12,380	12,800
Land in farm.....	Acre	346	349	1,269	1,286	346	350
Cropland harvested.....	do.	320	316	1,040	1,020	320	322
Crops harvested:							
Cotton.....	do.	136	128	443	417	127	119
Potatoes.....	do.	---	---	---	---	66	73
Alfalfa.....	do.	111	113	271	289	63	74
Barley.....	do.	44	40	305	292	64	56
Crop yields per harvested acre:							
Cotton.....	Pound	1,085	1,095	1,085	1,095	1,085	1,095
Potatoes.....	Cwt.	---	---	---	---	320	335
Alfalfa.....	Ton	5	6	5	6	5	6
Barley.....	Bushel	62	52	62	52	62	52
Prices received:							
Cotton, per pound.....	Dollar	.339	.352	.339	.352	.339	.352
Cottonseed, per ton.....	do.	50.56	47.64	50.56	47.64	50.56	47.64
Potatoes, per cwt.....	do.	---	---	---	---	2.05	1.87
Alfalfa, per ton.....	do.	22.12	30.12	22.12	30.12	22.12	30.12
Barley, per bushel.....	do.	1.09	1.13	1.09	1.13	1.09	1.13
Index numbers (1957-59=100):							
Crop yields per acre.....	---	105	106	105	105	106	110
Net farm production....	---	107	106	109	105	102	108
Production per hour of man labor.....	---	107	108	107	105	106	107
Production per unit of input....	---	104	102	102	99	99	99
Prices received for products sold.....	---	102	111	102	111	103	102
Prices paid, including wages to hired labor.....	---	111	111	110	110	109	109

1/ Preliminary.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

marketing larger crops of peanuts and cotton. The only other major increase in expenditures resulted from increased mechanization and machinery costs. Less boll weevil infestation in 1963 helped reduce expenditures for cotton insecticides, though insecticides used on peanuts continued to trend upward.

Farm organization and crop practices were not greatly different in 1963 although the following trends continued from recent years: (1) Less labor was used in pre-harvest operations on peanuts and cotton as better land preparation,

chemical weed control, and precision planting reduced the need for chopping and hoeing; (2) mechanization of peanut harvesting approached completion with nearly 100 percent of the 1963 crop harvested from windrows by combines; (3) liquid or spray cotton insecticides were substituted for dusts; and (4) expenditures increased for machine work hired.

The continued trend toward mechanization shows up in the index of production per hour of man labor. This index has more than doubled since 1954 and has risen each year since 1957.

COSTS AND RETURNS FOR IMPORTANT CROP ENTERPRISES ON COTTON-TYPE FARMS

Returns exceeding direct costs per acre for cotton and alternative crops produced on typical cotton farms are given in table 5. Direct costs include items used for each specified crop enterprise. These costs include such items as: (1) Seed; (2) fertilizer; (3) pesticides; (4) materials for chemical weed control; (5) irrigation water; (6) machinery operating expenses; (7) custom work hired; and (8) operator, family, and hired labor. No charge is made for management, use of land, interest on farm capital, and farm overhead. Returns are shown with and without depreciation on farm machinery. Both returns and harvesting costs were calculated on the basis of "normal" yields per acre. "Normal" yields were an average of the most recent 5- or 6-year period depending upon which appeared to be more nearly in line with the long-time trends. Aside from these yield adjustments, 1963 practices, product prices, and cost rates were used.

These data indicate the competitive position of cotton and alterna-

tive crops. Production may be valued at other than 1963 prices to show the effect of changing prices on the competitive position of each enterprise. Varying the product price also indicates changes in production that may follow changes in expected prices. Data in table 5 apply specifically to cotton-type farms shown in tables 1 through 4. Results on other farms may differ considerably from those shown in table 5. These are only partial cost estimates and cannot be used to answer all economic questions. Estimates of total farm costs and returns, shown in tables 1 through 4, are better suited to answering questions such as product prices needed to give some predetermined return on resources or comparing returns from cotton production with returns from nonfarm use of resources.

With prices for 1963 and "normal" yields, returns above direct cost are generally greater for cotton than for alternative crops currently produced on these farms. The only exception is on peanut-cotton farms

in the Southern Coastal Plains. However, considerable variation existed among types of farms. On 3 types of farms--peanut-cotton farms, cotton farms in the Southern Piedmont, and Black Prairie cotton farms--the cotton price decline needed to equalize per acre returns from cotton, and the crop with the next highest returns per acre, ranged from 2.5 cents per pound to 6.3 cents per pound. But on large-scale cotton farms in the Delta, nonirrigated and irrigated cotton farms in the High Plains of Texas, and cot-

ton-general crop farms in the San Joaquin Valley of California, the range was from 11.7 cents per pound to 15.6 cents per pound.

These figures indicate that cotton on these typical farms is competitive with other crops at prices above those shown in the last column of table 5. However, production is being discontinued on some farms at present prices. Net farm income on such farms either is or may become too low for the operator to continue farming.

Table 5.- Per acre returns above direct costs, by enterprises, for representative cotton farms, with "normalized" yields, 1963

Farm type and crop	Unit	"Normalized" yield	Prices received	Returns per acre	Direct costs per acre	Returns above direct costs	Machinery depreciation	Returns above direct costs and depreciation	Price of cotton that would equalize return from cotton and next best alternative							
										Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
										Unit/acre	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Cotton farms:																
Southern Piedmont:																
Cotton, lint	Pound	354	0.337	133.05	90.51	42.54	2.72	39.82	0.292							
Cottonseed	do.	566	.0243													
Corn	Bushel	30.4	1.28	38.91	33.39	5.52	2.48	3.04								
Oats	do.	39.5	.82	32.39	22.40	9.99	1.74	8.25								
Wheat	do.	25.5	1.85	47.18	21.51	25.67	1.74	23.93								
Mississippi Delta, Large-scale farms:																
Cotton, lint	Pound	562	.332	211.51	92.01	119.50	9.80	109.70	.215							
Cottonseed	do.	955	.0261													
Corn	Bushel	41.4	1.26	52.16	25.59	26.57	4.28	22.29								
Oats	do.	44.7	.79	35.31	18.61	16.70	3.53	13.17								
Soybeans	do.	24.3	2.59	62.94	15.31	47.63	3.90	43.73								
Texas:																
Black Prairie:																
Cotton, lint	Pound	194	.307	68.07	36.39	31.68	5.90	25.78	.282							
Cottonseed	do.	330	.0258													
Corn	Bushel	28.8	1.30	37.44	12.24	25.20	4.24	20.96								
Oats	do.	26.7	.82	21.89	13.72	8.17	5.32	2.85								
Sorghum	Cwt.	19.64	1.82	35.74	13.62	22.12	4.39	17.73								

Farm type and crop	Unit	"Normalized" yield	Prices received	Returns per acre	Direct costs per acre 1/	Returns above direct costs	Machinery depreciation	Returns above direct costs and depreciation	Price of cotton that would equalize return from cotton and next best alternative 1/
			Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
High Plains, Nonirrigated:									
Cotton, lint	Pound	259	0.304	88.72	32.70	56.02	3.67	52.35	0.148
Cottonseed	do.	378	.0264						
Grain sorghum	Cwt.	13.63	1.74	23.72	9.50	14.22	2.28	11.94	
High Plains, Irrigated:									
Cotton, lint	Pound	556	.304	190.46	71.95	118.51	12.19	106.32	.179
Cottonseed	do.	812	.0264						
Grain sorghum	Cwt.	33.6	1.74	58.46	15.49	42.97	6.13	36.84	
Cotton-general crop farms, San Joaquin Valley, Calif.: 3/									
Cotton, lint	Pound	1,030	.352	402.82	171.38	231.44	24.63	206.81	.222
Cottonseed	do.	1,690	.0238						
Alfalfa	Ton	5.5	30.12	165.66	74.84	90.82	13.08	72.74	
Barley	Bushel	54.4	1.13	61.47	30.30	31.17	6.15	25.02	
Corn	do.	61.9	1.46	90.37	63.34	27.03	12.12	14.91	
Peanut-cotton farms, Southern Coastal Plains:									
Cotton, lint	Pound	404	.324	146.08	102.03	44.05	7.41	36.64	.261 2/
Cottonseed	do.	687	.0221						
Peanuts	do.	1,220	.109	132.98	56.02	76.96	8.78	68.18	
Corn	Bushel	36.5	1.26	45.99	30.64	15.35	4.15	11.20	
1/ See text for explanation. 2/ Compared with corn. 3/ Medium-sized.									

1/ See text for explanation. 2/ Compared with corn. 3/ Medium-sized.

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